Abstract

In a unipolar transverse flux machine, to achieve a modular construction, which is favorable from a production standpoint, the stator (11) and the rotor (12) have an equal number of identical stator modules (14) and rotor modules (15); the rotor modules (15) are firmly seated, in alignment with one another, on the rotor shaft (13), and the stator modules (14) are rotated by a rotational angle from one another in the housing (10). When there are two stator modules (14), the rotational angle is 90° electrically, and when there are m stator modules (14), the rotational angle is 360°/m electrically, where m is an integer and is greater than 2. Each stator module (14) has an annular coil (23), disposed coaxially to the rotor axis (19), and U-shaped stator yokes (24) that fit over the annular coil, along with short-circuit elements (25) disposed between the stator yokes. Each rotor module (15) comprises two rotor rings (16, 17) with teeth on the outside, and between them a permanent-magnet ring (18), magnetized unipolarly in the direction of the rotor axis (19) (Fig. 1).